

What is claimed is:

1. A filter assembly of a washing machine, comprising:
a filter case comprising:
inlet and outlet on a circumference thereof; and
an opening therein to make the inlet and outlet communicate with each other;
and
a filter provided in the filter case, the filter having a plate disposed in front of the
opening to prevent a heavy particle from passing through the opening wherein the heavy
particle is gathered in a central area by a centrifugal force when water flowing in the filter
case via the inlet whirls to pass through the opening.
2. The filter assembly of claim 1, wherein the filter case is cylindrical.
3. The filter assembly of claim 2, wherein the inlet is provided on an outer
surface of the filter case along a tangent direction.
4. The filter assembly of claim 1, wherein the plate and the opening are circular.
5. The filter assembly of claim 1, wherein the filter case comprises:
a tube having the inlet and outlet on the circumference;
a partition wall provided in the tube to partition an internal space of the tube into first
and second chambers communicating with the inlet and outlet, respectively; and
the opening perforating the partition wall.

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26 6. The filter assembly of claim 5, wherein the inlet is provided on an outer
27 surface of the tube along a tangent direction.

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29 7. The filter assembly of claim 5, wherein an impeller is provided in the second
30 chamber to forcibly circulate the water by being rotated by a motor.

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32 8. The filter assembly of claim 5, wherein the filter is provided in the first
33 chamber.

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35 9. The filter assembly of claim 1, wherein the filter comprises:
36 a cap fitted to the filter case to be fixed thereto;
37 a shaft extending from the cap toward the opening; and
38 the plate provided at an end of the shaft to be disposed in front of the opening with a
39 predetermined gap.

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41 10. The filter assembly of claim 9, wherein the shaft is disposed along a central
42 axis of the filter case.

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44 11. The filter assembly of claim 9, wherein the filter is built in one body.

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46 12. The filter assembly of claim 9, wherein a size of the plate is larger than that
47 of the opening.

49 13. The filter assembly of claim 9, wherein an edge of the plate is overlapped
50 with a rim of the opening.

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52 14. The filter assembly of claim 9, wherein the filter further comprises a handle
53 extending from the cap to facilitate to be grabbed.

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55 15. A filter assembly of a washing machine, comprising:

56 a filter case comprising:

57 a tube having inlet and outlet on a circumference thereof;

58 a partition wall provided in the tube to partition an internal space of the tube
59 into first and second chambers communicating with the inlet and outlet, respectively;
60 and

61 the opening perforating the partition wall; and

62 a filter comprising:

63 a cap fitted to the filter case to be fixed thereto;

64 a shaft extending from the cap toward the opening; and

65 a plate provided at an end of the shaft to be disposed in front of the opening
66 with a predetermined gap to prevent a heavy particle from passing through the
67 opening wherein the heavy particle is gathered in a central area by a centrifugal force
68 when water flowing in the first chamber via the inlet whirls to pass through the
69 opening.

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71 16. The filter assembly of claim 15, wherein the tube is cylindrical and the inlet
72 is provided on an outer surface of the tube along a tangent direction.

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74 17. The filter assembly of claim 15, wherein the plate and the opening are
75 circular.

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77 18. The filter assembly of claim 15, wherein an impeller is provided in the
78 second chamber to forcibly circulate the water by being rotated by a motor.

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80 19. The filter assembly of claim 15, wherein the shaft is disposed along a central
81 axis of the tube.

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83 20. The filter assembly of claim 15, wherein the filter is built in one body.

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85 21. The filter assembly of claim 15, wherein a size of the plate is larger than that of
86 the opening.

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88 22. The filter assembly of claim 15, wherein an edge of the plate is overlapped
89 with a rim of the opening.

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91 23. The filter assembly of claim 15, wherein the filter further comprises a handle
92 extending from the cap to facilitate to be grabbed.